

# **EXHIBIT 24**

**UNITED STATES DISTRICT COURT  
FOR THE WESTERN DISTRICT OF NORTH CAROLINA  
ASHEVILLE DIVISION**

SANDRA M. PETERS, on behalf of herself  
and all others similarly situated,

Plaintiff,

v.

AETNA, INC., AETNA LIFE INSURANCE  
COMPANY, and OPTUMHEALTH CARE  
SOLUTIONS, INC.,

Defendants.

CIVIL ACTION NO.  
1:15-cv-00109

**EXPERT REPORT OF CONSTANTIJN PANIS, Ph.D.**

Advanced Analytical Consulting Group, Inc.  
April 27, 2018

I, Constantijn (Stan) Panis, hereby submit the following report:

### **Scope of Work**

1. I have been engaged by Zuckerman Spaeder LLP ("Counsel"), counsel for Sandra M. Peters ("Plaintiff"), to provide an opinion on certain aspects related to potential class certification in her litigation against Aetna, Inc., Aetna Life Insurance Company ("Aetna"), and OptumHealth Care Solutions, Inc. ("Optum") (collectively, "Defendants").
2. Appendix A lists the documents which I considered for this report.
3. My firm Advanced Analytical Consulting Group, Inc. ("AACG") bills its professional fees on an hourly basis according to the positions held within the firm. My billing rate on this engagement is \$600 per hour. Compensation is not contingent on the outcome of this case.
4. This report is based on the full extent of my knowledge as of this date. I reserve the right to supplement this report and amend or revise my opinions based on new facts that may come to my attention. For example, I understand that Aetna has been granted permission to produce additional claim data, which I have not yet had the opportunity to review.

### **Qualifications**

5. I am a Principal at AACG, a Massachusetts corporation that provides economic and statistical consulting services relating to healthcare and other issues.
6. My educational background is as follows: in 1984, I received a Bachelor of Arts degree in economics from the University of Groningen in the Netherlands. In 1986, I received a Master's degree in business economics from the same institution. In 1988, I received a degree in Dutch Civil Law, also from the

University of Groningen. In 1992, I received a Ph.D. in economics from the University of Southern California in Los Angeles, California.

7. From 1986 to 1996 and from 1997 to 2004 I was employed by The RAND Corporation. My final position at RAND was Senior Economist. From 2004 to 2009 I was employed by Deloitte Financial Advisory Services LLP ("Deloitte") as a Manager/Senior Manager of Economic and Statistical Consulting. I joined AACG in 2009. I have taught graduate and undergraduate courses in economics, statistics, and econometrics (the application of statistical methods to economic data) at the University of California at Irvine and at the University of Southern California. I also co-founded EconWare, Inc., a company that developed and sold statistical software to disentangle causality, reverse causality, and selection effects in economic models. My curriculum vitae is included as Appendix B. It lists all cases in which I have served as an expert.
8. In the late 1980s I became interested in healthcare issues. My Ph.D. dissertation developed a method to quantify the health benefits to infants of prenatal care and hospital delivery. I have since published more than 20 books and articles in the *Journal of Health Economics*, *Journal of Human Resources*, *Medical Care*, *Health Affairs*, *Health Policy Research*, and other professional journals, including on statistical methods to distinguish causality from correlation.
9. My former employer The RAND Corporation is a nonprofit institution that specializes in conducting research on such public policy issues as national security, healthcare, employment, and social security. While at The RAND Corporation, I directed numerous healthcare research studies, including on healthcare costs and utilization. These studies were almost entirely funded by the National Institutes of Health, the Centers for Medicare and Medicaid Services (CMS), the U.S. Department of Labor, and the Social Security Administration. While at Deloitte and also currently at AACG, I continued conducting healthcare research for the U.S. Department of Labor. Among other topics, I studied self-insured health plans in support of the Secretary of Labor's 2011-2018 annual reports to Congress.

10. In the course of my research and litigation support, I routinely analyze healthcare claims and the allocation of claim amounts to health benefit plan members (through copayments, deductibles, and coinsurance), health benefit plans (through reimbursements), other payors (through coordination of benefits), and healthcare providers (through contractual adjustments).

## **Introduction**

11. It is my understanding that Optum processes certain medical claims for Aetna. The Plaintiff alleges that Aetna plan participants and beneficiaries ("members") and health benefit plans were overcharged for benefit claims as a result of charges by Optum. Optum's services are allegedly concealed as medical services which were billed to health benefit plans and paid in part by members of those plans or the plans themselves.
12. It is further my understanding that this litigation is concerned with claims from April 15, 2012 to the present time ("reference period").
13. Many employers sponsor health benefit plans which offer coverage for medical expenses to their employees and possibly others (such as retired employees and dependents). The financial responsibility is typically shared by members (through premium payments, copayments, deductibles, and coinsurance) and plans themselves. Plans may purchase insurance for medical expenses with an insurance carrier such as Aetna; such plans are "fully insured." Instead, plans themselves may pay for medical expenses; such plans are "self-insured" (or "self-funded"). Self-insured plans typically contract with a third party to administer medical claims, and these third-party administrators can be insurance carriers. Companies like Aetna thus offer both insurance and claims administration services. A self-insured plan may contract with Aetna to administer medical claims, while the plan shoulders the financial risks associated with medical claims. A fully insured plan may contract with Aetna to both administer medical claims and absorb financial risks.

14. The contract between self-insured plans and Aetna—known as an Administrative Services Only (ASO) contract—presumably covers the costs of administering claims, including costs incurred by the insurance company and its subcontractors. The alleged behavior suggests that self-insured plans paid twice for Optum’s services.
15. It is my understanding that the Plaintiff seeks class certification for members who were overcharged for claims as a result of the Defendants’ alleged practices. Members may have been overcharged to the extent they were responsible for Optum charges included in medical claims. I refer to this putative class as the “member class.”
16. It is further my understanding that the Plaintiff seeks class certification for health benefit plans that were overcharged for claims as a result of the Defendants’ alleged practices. Plans may have been overcharged to the extent they were responsible for Optum charges included in medical claims. In the case of fully insured plans, the insurance company (Aetna) covers such expenses, although a fully insured plan may still be harmed if its insurance premium is raised in response to an unfavorable claim experience, such as due to Optum’s charges. Also see ¶52. It is my understanding that fully insured plans are excluded from the proposed class of health benefit plans. I refer to the putative class of health benefit plans as the “plan class.”

#### **Claims Data**

17. [REDACTED]  
[REDACTED]
18. [REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED]

[REDACTED]

19. [REDACTED]

20. [REDACTED]

21. [REDACTED]

22. [REDACTED]

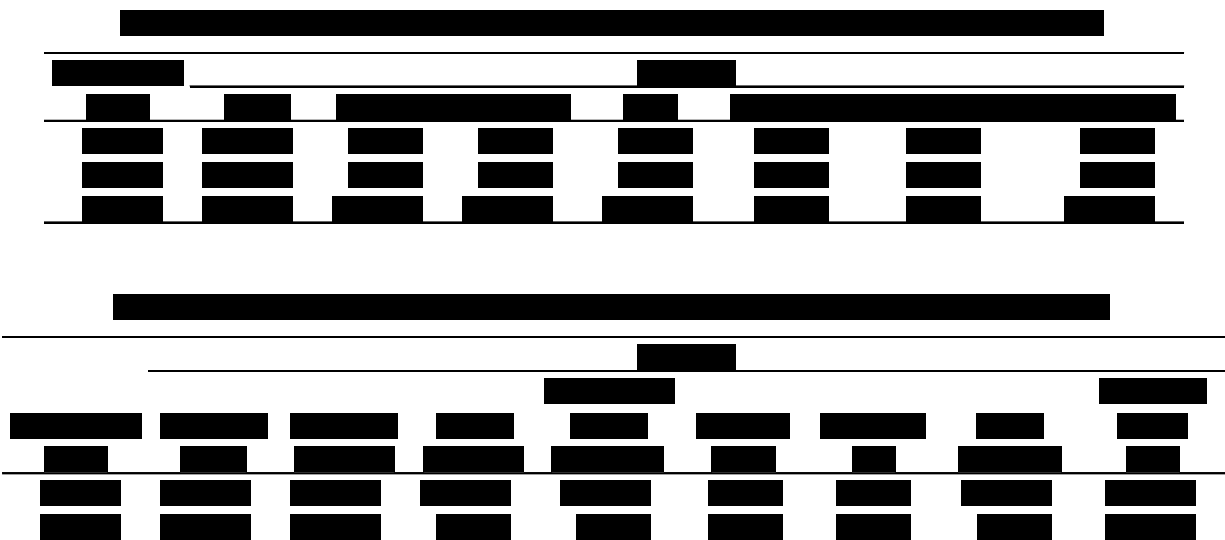
23. [REDACTED]

[REDACTED]

24. [REDACTED]

**Illustration of the Alleged Arrangement between Aetna and Optum**

25. [REDACTED]



26. [REDACTED]



[REDACTED]

27. [REDACTED]

28. [REDACTED]

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<sup>1</sup> [REDACTED]

<sup>2</sup> [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

29. The plan in this illustration is a self-insured plan, so the plan bore the payment that Aetna made. [REDACTED]

[REDACTED]

30. [REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED]

31. [REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED]

32. [REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED]

33. [REDACTED]  
[REDACTED]  
[REDACTED]

34. [REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED]

[REDACTED]  
[REDACTED]

35. [REDACTED]  
[REDACTED]

36. [REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED]

37. [REDACTED]  
[REDACTED]

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<sup>3</sup> [REDACTED]  
[REDACTED]

[REDACTED]  
[REDACTED]  
[REDACTED]<sup>4</sup> That number has likely increased, as it is my understanding that Defendants continue their practice.

38. Insofar related to claims that were covered by self-insured plans, this amount can also be viewed as gain to Aetna, which was able to avoid using its own funds to pay these amounts.

### **Plaintiff's Requested Relief**

39. [REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED]

40. The remaining claims represent a variety of scenarios. In the most common scenario, the member was solely responsible for the provider-allowed amount, presumably because his or her deductible amount for the plan year had not yet been met. The data do not indicate that Optum's charges were collected from plans or members in those instances. On some other claims, the plan and member were responsible for the Aetna-allowed amount, but that amount was less than the provider-allowed amount. Yet other claims were disallowed, paid by a third party (through coordination of benefits), or involved some other scenario.

[REDACTED]

41. [REDACTED]  
[REDACTED]

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<sup>4</sup> [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

42. I allocate the overcharges to plans and members as follows. (1) If the member was responsible for a copayment and the plan for the remainder, the entire overcharge was borne by the plan. (2) Otherwise, I assume that the plan and the members were overcharged in proportion to their responsibility for the Aetna-allowed amount. For example, if the coinsurance payment was 20% of the Aetna-allowed amount (as in the illustrative claim discussed above and in Figure 1), 20% of the overcharge was borne by the members and 80% by the plan.

43. [REDACTED]

44. [REDACTED]

### **Calculation Issues**

45. My approach to calculating overcharges is based on claims patterns in the Optum data. As currently available, the Aetna data do not identify provider-allowed amounts and thus do not permit calculating overcharges to the member class or plan class.

46. [REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED]

47. [REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED]

48. [REDACTED]  
[REDACTED]  
[REDACTED]

### **Other Considerations**

49. My overcharge calculations apply to claims for which the combined responsibility of the plan and the member was equal to the Aetna-allowed amount and exceeded the provider-allowed amount. For most of the other claims, charges to the plan were zero and the member was solely responsible for the provider-allowed amount, presumably because the member's deductible amount for the plan year had not yet been met. [REDACTED]  
[REDACTED]

50. For these claims, it is my understanding that Defendants did not instruct providers to collect the full Aetna-allowed amount and did not separately seek to collect the full Aetna-allowed amount from members, with the exception of members who used a Health Savings Account ("HSA") to pay for claims.

Therefore, I have not included those claims in my analysis of overcharges as described above.

51. [REDACTED]  
[REDACTED]  
[REDACTED] Such claims are included in my calculations, but the overcharge was assumed to be borne by the plan rather than the member. The Optum data do not permit identifying claims that were paid from an HSA and the amount affected is unknown. If additional data on HSA-paid claims become available, I reserve the right to refine my calculations.

52. A separate issue relates to insurance premiums that employers pay for fully insured health benefit plans. The alleged arrangement between Aetna and Optum appears to increase aggregate claims costs. Based on elevated claims experiences, Aetna may have increased insurance premiums. I have not included these indirect additional costs to fully insured plans in my analysis of overcharges described above.

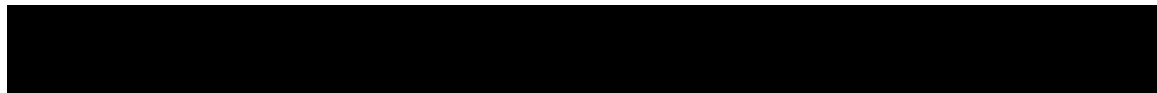
53. Similarly, consider monthly premiums that employees pay to participate in their employer's health benefit plan. The addition of Optum's charges to medical claims increases the cost of those claims, for self-insured plans and possibly also fully insured plans (see ¶52). In turn, employers may raise the premium that they charge to members to participate in their health benefit plan. I have not included these indirect additional costs to members in my analysis of overcharges described above.

**Summary**

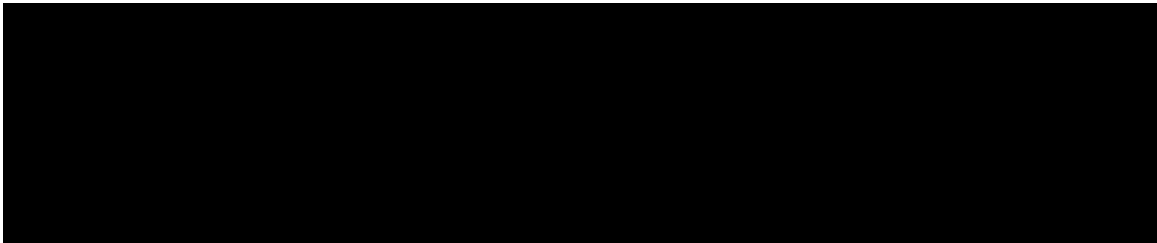
54.



55.



56.



A handwritten signature in black ink, appearing to read "Constantijn Panis", written over a horizontal line.

Constantijn Panis, Ph.D.

April 27, 2018



## **Appendix A. List of Documents and Data Sources**

- Class Action Complaint. June 2, 2015
- Plaintiff's Responses and Objections to Aetna's First Set of Interrogatories. January 12, 2017
- Plaintiff's Responses to Optum's First Set of Interrogatories. January 27, 2017
- Plaintiff's First Supplemental Responses to Aetna's First Set of Interrogatories. June 15, 2017
- Plaintiff's First Supplemental Responses to Optum's First Set of Interrogatories. June 15, 2017
- Optumhealth Care Solutions, Inc.'s Supplemental Response and Objections to Peters's Interrogatory No. 2. January 12, 2018
- Letter from G. Sigler to J. Knott. January 10, 2017
- Data files in Microsoft Excel or text format:
  - Claims data involving Plaintiff: AETNA-PETERS-00003023.xlsx
  - Claims data involving Plaintiff: 2017-07-20 Peters - List of Claim IDs (2).xlsx
  - Aetna data: AETNA-PETERS-00065903.xlsx, AETNA-PETERS-00065902.xlsx, AETNA-PETERS-00011307.txt
  - Optum data: OPTUM-PETERS-000018349.xlsx, OPTUM-PETERS-000018350.xlsx, OPTUM-PETERS-000018351.xlsx, OPTUM-PETERS-000018352.xlsx, OPTUM-PETERS-000018353.xlsx
- Explanation of Benefits:
  - AETNA-PETERS-00000181-3
  - AETNA-PETERS-00000162-4
- Provider claim form and remittance advice: Optum-Peters-00001846.pdf
- Deposition transcripts:
  - Jennifer Cross Hennigan (Condensed) (March 1, 2018 - 30(b)(6)).pdf
  - REVISED - Sandra Peters Depo (March 5, 2018) (Condensed Version).pdf
  - 2018-03-08 Optum 30(b)(6) (Eichten) Dep. Tr. (Full).pdf
- Contracts between Aetna and Optum:
  - 2012-04-15 Aetna-Optum Contract Oversight Claims Management Agreement (AETNA-PETERS-00000451-85)

- 2012-04-15 Aetna-Optum Delegated Credentialing Agreement (AETNA-PETERS-00000521-42)
- 2012-04-15 Aetna-Optum Delegated Patient Management Agreement (AETNA-PETERS-00000565-91)
- 2012-04-15 Aetna-Optum Provider Agreement (AETNA-PETERS-00000619-851)
- 2013-06-01 Aetna-Optum Contract Oversight Claims Management Agreement (AETNA-PETERS-00001541-82)
- 2013-06-01 Aetna-Optum Delegated Credentialing Agreement (AETNA-PETERS-00001583-611)
- 2013-06-01 Aetna-Optum Delegated Patient Management Agreement (AETNA-PETERS-00001434-540)
- 2013-06-01 Aetna-Optum Provider Agreement (AETNA-PETERS-00001648-749)
- Pages from AetNet Network Reference Tool or similar:
  - AETNA-PETERS-00003113-15
  - AETNA-PETERS-00003128-30
  - AETNA-PETERS-00005371-434

**Appendix B. Curriculum Vitae of Constantijn Panis, Ph.D.**

## **Constantijn (Stan) Panis, Ph.D.**

Principal  
Advanced Analytical Consulting Group, Inc.  
Phone: (213) 784-6400  
Email: StanPanis@AACG.com

### **Professional Summary**

Dr. Panis is an expert in healthcare, demographic issues, statistics, and forecasting. He has extensive litigation support experience including as economic expert witness in healthcare, labor, and class action cases. He is widely published; was an award-winning teacher in MBA and undergraduate programs; and co-founded a successful company that developed statistical software to disentangle causality, reverse causality, and selection effects in economic models.

Prior to joining AACG, Dr. Panis led the Economic and Statistical Consulting group of Deloitte & Touche in the Pacific Southwest. Before that, he was a senior economist at the RAND Corporation, where his research on health and healthcare utilization was funded by the National Institutes of Health, the Centers for Medicare and Medicaid Services, and other federal agencies. He served on the faculty of the University of Southern California and the University of California at Irvine, teaching undergraduate and graduate statistics and economics courses. His work has been published in the *Journal of Health Economics*, *Medical Care*, *Health Affairs*, *Health Policy Research*, and many other professional journals.

### **Education**

Ph.D., Economics, University of Southern California, Los Angeles, California  
J.D. (equivalent), Dutch Civil Law, University of Groningen, Netherlands  
M.A., Business Economics (cum laude), University of Groningen, Netherlands  
B.A., Economics (cum laude), University of Groningen, Netherlands

### **Selected Engagements**

Dr. Panis served as statistical expert in a matter involving alleged Medicare upcoding and Medicaid care violations by a chain of skilled nursing facilities (SNFs).

Dr. Panis served as economic expert in support of a medical provider that allegedly overbilled Medicare. He demonstrated that 90% of the peer group of providers to which the DOJ compared the defendant were practicing in a different specialty field.

- Dr. Panis provided litigation support in several cases involving hospitals that allegedly manipulated their charges to collectively extract hundreds of millions of dollars in excess Medicare Outlier payments.
- Dr. Panis served as statistical expert to document that health information recorded by certain medical devices is considered not individually identifiable under HIPAA because he determined that the risk is very small that the information could be used to identify patients.
- Dr. Panis served as economic expert on demographic trends, healthcare utilization, and their implications for future demand for hospital services.
- Dr. Panis served as economic expert for a medical testing laboratory under investigation for allegedly carrying out more extensive flow cytometry tests than medically necessary. His report showed that the test panels were closely in line with those at appropriately defined industry peers.
- The U.S. Department of Labor (DOL) retained Dr. Panis to study self-insured health plans and to write substantial portions of the Secretary of Labor's 2011-2019 reports to Congress pursuant to the 2010 Affordable Care Act. Separately, DOL commissioned Dr. Panis to assess funding levels of retiree health benefits.
- Dr. Panis related workplace injury logs to worker demographics, production levels, and other factors in support of a criminal litigation case in which a major manufacturing company was accused of workplace safety violations.
- Dr. Panis developed a projection model to forecast the demand for nursing home beds in the United States. He found that, alongside demographic factors, increasing prevalence of obesity, diabetes, and asthma in the younger population will boost demand for nursing home beds in the future.
- Dr. Panis developed a complex Monte Carlo simulation model of health status and medical expenditures for the Centers of Medicare and Medicaid Services (CMS). The model is used to assess the implications of major medical breakthroughs for Medicare's finances.
- In a matter involving the sale of deferred annuities to senior citizens, Dr. Panis served as expert on the benefits of lifelong-guaranteed income for retirement satisfaction and symptoms of depression.
- In several separate matters, Dr. Panis served as economic expert to calculate lifetime lost earnings, including of someone who was injured before reaching her target occupation.
- In a variety of engagements, Panis designed statistical samples or reviewed the appropriateness of samples for financial audit, damages calculations, or other extrapolation purposes.

## **Professional Experience**

Principal, Advanced Analytical Consulting Group, Inc. 2009–present.

Senior Manager / Manager, Deloitte Financial Advisory Services LLP, Economic and Statistical Consulting, 2004–2009.

Senior Economist/Economist/Associate Economist/Consultant, The RAND Corporation, 1986–1996 and 1997–2004. Senior Economist, 1999–2004.

Consultant, Analysis Group, 2004

Co-founder and CEO, EconWare, Inc., 1999–2005

Business Analyst, Computer Sciences Corporation, 1996–1997

Adjunct Associate/Assistant Professor, University of Southern California, Economics Department and Marshall School of Business, 1993–2002 (part-time)

Lecturer, University of California at Irvine, Graduate School of Management, 1992–1995 (part-time)

### **Expert Opinion and Expert Witness Experience**

The United States of America and the State of Florida ex rel. Meria Broadnax v. Sand Lake Cancer Center, P.A. and Vinicio Hernandez, M.D. United States District Court for the Middle District Of Florida, Tampa Division, Case No. 8:13-cv-2724-JDW-MAP. Expert report, April 2, 2018.

The United States of America and the State of Florida ex rel. Angela Ruckh v. CMC II, LLC et al., United States District Court for the Middle District of Florida, Tampa Division, Case No. 8:11 CV 1303 SDM-TBM. Reports and declarations: February 20, 2015; December 11, 2015; February 25, 2016; March 28, 2016; April 19, 2016; October 20, 2016; and January 31, 2017. Depositions: March 10, 2015 and March 17, 2016. Trial testimony: February 2017.

State of New Mexico, ex rel. Hector H. Balderas, Attorney General, v. FastBucks Holding Company, et al. State of New Mexico, County of Santa Fe, First Judicial District Court. Case No. D-0101-CV-2009-01917. Deposition: August 23, 2016.

California Department of Health Care Services v. Joseph A. Foroosh, Dental Corporation d.b.a. Desert Dental Group. Office of Administrative Hearings and Appeals, Appeal DC130113480. Testimony, June 5, 2014.

United States ex rel. Michael Ruhe et al. v. Masimo Corporation. United States District Court, Central District of California, Case No. 2:10-CV-08169-CJC (VBKx). Report, July 31, 2013.

United States of America ex rel. Alan M. Freedman v. Jose Suarezhoyos, MD, Steven Jay Wasserman, MD, et al.. United States District Court, Middle District of Florida, Case No. 8:04-CV-933. Declaration, April 21, 2012.

Rowe v. Bankers Life and Casualty Company. United States District Court, Northern District of Illinois, Eastern Division, Case No. 09-CV-491. Declaration, January 31, 2011. Deposition, February 15, 2011.

Office of Inspector General of the U.S. Department of Education v. BridgePoint Education and Ashford University. Expert reports, July 29, 2010 and February 23, 2011.

Hansen v. Conseco Insurance Company. United States District Court, Northern District of California, San Jose Division, Case No. C-08-04726-RMW. Declaration, August 19, 2010.

- Torday v. Secretary of Health and Human Services. United States Court of Federal Claims, Office of Special Masters, Case No. 07-372V. Expert report, July 29, 2010.
- Walsh v. Principal Life Insurance Company and Princor Financial Services Corporation. United States District Court, Southern District of Iowa, Case No. 4:07-CV-00386-RP-CFB. Expert report, September 15, 2009. Deposition, September 30, 2009.
- Sweeney, et al. v. National Western Life Insurance Company. United States District Court, Southern District of California, Case No. 05 CV 1018 JLS. Declaration, September 3, 2009. Deposition, October 15, 2009.
- County of Sonoma v. Sutter Medical Center of Santa Rosa. Expert report, November 23, 2007.
- Carrera v. Secretary of Health and Human Services. United States Court of Federal Claims, Office of Special Masters, Case No. 03-2016V. Expert report, February 28, 2007.
- United States of America ex rel. James Tiesinga v. Dianon Systems, Inc. United States District Court, Connecticut, Case No. 3:02CV1573(MRK). Declaration, November 15, 2006.
- Taylor, et al. v. Farmers Insurance Co., Superior Court, King County, Washington, Case No. 02-2-08934-8 SEA. Deposition, March 1, 2006.
- Rainbow Development Corp. v. Rhodes Design and Development Corp., et al., District Court, Clark County, Nevada, Case No. A392416. Report, April 19, 2005. Deposition, April 21, 2005.

## Papers and Publications

- "Self-Insured Health Benefit Plans 2017" (with Michael Brien). 2017. Report for the U.S. Department of Labor, Employee Benefits Security Administration.
- "Innovations and Trends in Annuities: Qualifying Longevity Annuity Contracts (QLACs)" (with Michael Brien). 2016. Report for the U.S. Department of Labor, Employee Benefits Security Administration.
- "Financial Risks due to Long-Term Care" (with Michael Brien). 2016. Report for the U.S. Department of Labor, Employee Benefits Security Administration.
- "Review of Selected Studies and Comments in Response to the Department of Labor's Conflict of Interest 2015 Proposed Rule and Exemptions" (with Karthik Padmanabhan and Timothy Tardiff). 2016. Report for the U.S. Department of Labor, Employee Benefits Security Administration.
- "Rates of Return of Broker-Sold and Direct-Sold Mutual Funds" (with Karthik Padmanabhan and Timothy Tardiff). 2016. Report for the U.S. Department of Labor, Employee Benefits Security Administration.
- "Self-Insured Health Benefit Plans 2016" (with Michael Brien). 2015. Report for the U.S. Department of Labor, Employee Benefits Security Administration.

- "Self-Insured Health Benefit Plans 2015" (with Michael Brien). 2014. Report for the U.S. Department of Labor, Employee Benefits Security Administration.
- "Brokerage Accounts in the United States" (with Michael Brien). 2015. Report for the U.S. Department of Labor, Employee Benefits Security Administration.
- "Savers With and Without a Pension" (with Michael Brien). 2015. Report for the U.S. Department of Labor, Employee Benefits Security Administration.
- "Target Populations of State-Level Automatic IRA Initiatives" (with Michael Brien). 2015. Report for the U.S. Department of Labor, Employee Benefits Security Administration.
- "Asset Allocation of Defined Benefit Pension Plans" (with Michael Brien). 2015. Report for the U.S. Department of Labor, Employee Benefits Security Administration.
- "Implications of Expanded Annuitization for Old-Age Well-Being" (with Michael Brien). 2015. Report for the U.S. Department of Labor, Employee Benefits Security Administration.
- "Comments on a Review of a White House Report on Conflicted Investment Advice." 2015. Report for the U.S. Department of Labor, Employee Benefits Security Administration.
- "Financial Asset Holdings of Households in the United States: 2014 Update" (with Michael Brien). 2014. Report for the U.S. Department of Labor, Employee Benefits Security Administration.
- "Review of Study by Quantria Strategies, LLC." 2014. Memorandum to the U.S. Department of Labor, Employee Benefits Security Administration.
- "Self-Insured Health Benefit Plans 2014" (with Michael Brien). 2014. Report for the U.S. Department of Labor, Employee Benefits Security Administration.
- "Classifying Portfolio Volatility" (with Michael Brien). 2013. Report for the U.S. Department of Labor, Employee Benefits Security Administration.
- "Defined Contribution Plan Employer Match Suspensions During the Financial Crisis" (with Michael Brien). 2013. Report for the U.S. Department of Labor, Employee Benefits Security Administration.
- "Matching Form 5500 Employee Benefit Plan Filings by Employer" (with Michael Brien). 2013. Report for the U.S. Department of Labor, Employee Benefits Security Administration.
- "Self-Insured Health Benefit Plans: 2013" (with Michael Brien). 2013. Report for the U.S. Department of Labor, Employee Benefits Security Administration.
- "Self-Insured Health Benefit Plans: 2012" (with Michael Brien). 2012. Report for the U.S. Department of Labor, Employee Benefits Security Administration. Also "Self-Insured Health Benefit Plans Supplemental Report 2012" with additional details.
- "An Analysis of 2007-2009 Filings of Form M-1, Report for Multiple Employer Welfare Arrangements (MEWAs) and Certain Entities Claiming Exception (ECES)" (with Michael Brien). 2012. Report for the U.S. Department of Labor, Employee Benefits Security Administration.



- "Anomalies in Form 5500 Filings: Lessons from Supplemental Data for Group Health Plan Funding" (with Michael Brien). 2012. Report for the U.S. Department of Labor, Employee Benefits Security Administration.
- "Strengths and Limitations of Form 5500 Filings for Determining the Funding Mechanism of Employer Provided Group Health Plans" (with Michael Brien). 2012. Report for the U.S. Department of Labor, Employee Benefits Security Administration.
- "Identifying Self-Insured Health Plans Using Research Data Sources" (with Michael Brien). 2012. Report for the U.S. Department of Labor, Employee Benefits Security Administration.
- "Annuities in the Context of Defined Contribution Plans" (with Michael Brien). 2011. Report for the U.S. Department of Labor, Employee Benefits Security Administration.
- "Self-Insured Health Benefit Plans" (with Michael Brien). 2011. Report for the U.S. Department of Labor, Employee Benefits Security Administration. Also "Self-Insured Health Benefit Plans Second Report" (2012) with additional details.
- "Large Group Health Plans Study" (with Michael Brien). 2011. Report for the U.S. Department of Labor, Employee Benefits Security Administration.
- "Volatility Metrics for Mutual Funds" (with Michael Brien and Karthik Padmanabhan). 2010. Report for the U.S. Department of Labor, Employee Benefits Security Administration.
- "Target Date Funds and Retirement Savings" (with Michael Brien et al.). 2010. Report for the U.S. Department of Labor, Employee Benefits Security Administration.
- "Supply of and Demand for Skilled Labor in the United States" (with Lynn Karoly.) 2009. Chapter 2 in *Skilled Migration Today: Prospect, Problems and Policies*, edited by Jagdish Bhagwati and Gordon Hanson. Oxford University Press.
- "Target Date Funds: Historical Volatility/Return Profiles" (with Michael Brien and Philip Cross). 2009. Report for the U.S. Department of Labor, Employee Benefits Security Administration.
- "Other Post-Employment Benefits: Overview" (with Michael Brien et al.). 2009. Report for the U.S. Department of Labor, Employee Benefits Security Administration.
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### Peer Evaluation and Referee Experience

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<i>Journal of Human Resources</i>	<i>Social Security Bulletin</i>
<i>National Tax Journal</i>	<i>Demographic Research</i>
<i>Journal of the Royal Statistical Society, Series B</i>	<i>Social Science &amp; Medicine</i>
<i>Statistical Modeling: an International Journal</i>	<i>Economic Journal</i>
<i>Journal of Population Economics</i>	<i>Empirica</i>
<i>Methodology</i>	

R03 Grant Reviewer, National Institute for Child Health and Human Development (2004)

Review panelist, PENSIM Pension Simulation Model, Department of Labor (2000)